

Extra Credit 1

Due: October 9, 2023

Points: 20

The goal of this exercise is to determine whether a Linux system enforces the Principle of Complete Mediation. To start, create a readable text file, called *testfile*. Write a short program that does the following:

1. Open *testfile* for reading;
2. Use either *chmod(2)* or (preferably) *fchmod(2)* to turn off read permissions for *testfile*; and
3. Use *read(2)* and *write(2)* to copy the contents of the file to the standard output (file descriptor 1).

Then run the program. Do you see the contents of the file? If so, after you run your program, try to display the contents of the file using *cat(1)*, *less(1)*, or some similar program. What happens?

Turn in the source code to your program and your answers to the questions in the preceding paragraph. To turn in your source code, please create a *.tar* file, put the source in there, and submit it. In order to receive credit, please be sure the source code compiles correctly and executes correctly on the CSIF.

Note: If you run your program a second time, be sure *testfile* is still readable; otherwise, your program will fail.